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(71)Applicant : MITSUI CHEMICALS INC

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(72)Inventor : ISHITOKU TAKESHI  
NOGI YOSHINOBU

(54) POLYCARBONATE POLYOL, POLYCARBONATE POLYOL (METH) ACRYLATE, AND  
THEIR USE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a polycarbonate polyol good in solubility in solvents, a polycarbonate (meth)acrylate derived therefrom and improved in storage stability, and a solid electrolyte utilized the acrylate.

SOLUTION: This polycarbonate polyol is manufactured by polycondensation of two kinds of glycol and a carbonic acid diester, phosgene, or a chloroformic acid ester. The glycols are represented by the formulae  $\text{HO}-(\text{CH}_2\text{CH}_2\text{O})_n\text{-H}$  ( $n$  is an integer 2-10), and  $\text{HO-R-OH}$  ( $R$  is a C4-20 alkylene group). To the hydroxyl group of the polycarbonate polyol, a (meth)acrylic acid is reacted to obtain (meth)acrylate. By incorporating an alkali metal salt, to the resin prepared by polymerization of the polycarbonate (meth)acrylate, a polymer solid electrolyte having a high ion conductivity and excellent electrochemical stability is obtd.

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TITLE: Copolymerised poly:carbonated:di:ol for  
urethane resin -  
prepd. by reaction of e.g. alkylene:carbonate  
and  
alkylene:oxide adduct of 2,2-(4-  
hydroxyl:phenyl) propane

PATENT-ASSIGNEE: DAICEL CHEM IND LTD[DAIL]

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(December  
27, 1989)

PATENT-FAMILY:

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PAGES MAIN-IPC		
JP 03199230 A	August 30, 1991	N/A
008 N/A		
JP 2884358 B2	April 19, 1999	N/A
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APPLICATION-DATA:

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APPL-DATE		
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JP 2884358B2	Previous Publ.	JP 3199230
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INT-CL (IPC): C08G018/44, C08G064/02

ABSTRACTED-PUB-NO: JP 03199230A

BASIC-ABSTRACT:

In a polycarbonatediol obtd. by reacting a cpd. to necessitate  
dehydrochlorination, at least one of alkylencarbonate,  
diarylcarbonate,  
dialkylcarbonate and an aliphatic diol, the aliphatic diol is the  
mixt. of

20-80 pts. wt. of an alkyleneoxide adduct of 2,2-(4-hydroxyphenyl)propane as (I) and 80-20 pts. wt. of 1,6-hexanediol, wherein R = H, methyl, Ph = p-substd. phenyl, m, n = an integer of 1-3.

USE/ADVANTAGE - The urethane resin using the polycarbonate diol as the raw material shows well balanced property in low temp. performance, mechanical property, heat resistivity and humidity proof, and is used in an elastomer, adhesive and binder for magnetic tape.

In an example, 740g of Newcol-1900 (RTM: ethyleneoxide adduct of 2,2'-bis-(4-hydroxyphenyl) propane, 770g of dimethylcarbonate and 740g of 1,6-hexanediol with 0.3g of tetrabutyltitanate as catalyst were heated at boiling of dimethylcarbonate to distil out methanol generated and heated up slowly to 200 deg.C and then at reduced pressure to obtain the liq. polycarbonatediol with OH value of 56.2. The polyurethane obtd. from the diol and MDI showed 100% modulus of 208 kgf/cm<sup>2</sup> at -30 deg.C comparing with kgf/cm<sup>2</sup> for a polyurethane obtd. from polycarbonatediol similarly made of only 1,6-hexanediol as the diol.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: COPOLYMERISE POLY CARBONATED DI OL URETHANE RESIN PREPARATION

REACT ALKYLENE CARBONATE ALKYLENE OXIDE ADDUCT HYDROXYL PHENYL PROPANE

DERWENT-CLASS: A25 A81 A85 E14 G03 L03

CPI-CODES: A05-E06; A05-G02; A12-A05F; A12-E08A1; E05-L01; G02-A05B; G03-B02E4; L03-B05D4;

CHEMICAL-CODES:

Chemical Indexing M3 \*01\*

Fragmentation Code

A422 A960 C710 H4 H401 H481 H8 M210 M214 M231

M272 M281 M320 M411 M510 M520 M530 M540 M620 M630

M781 M903 M904 M910 Q121

Specific Compounds

01644U

UNLINKED-DERWENT-REGISTRY-NUMBERS: 1644U

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Key Serials: 0009 0013 0073 0226 1292 1296 1315 1317 1327 1329 1373  
1384 1444  
1587 1594 1608 1762 1934 2051 2064 2148 2150 2152 2600 2609 2628 2682  
2818

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158 163

169 170 175 198 200 207 208 209 210 220 221 225 239 262 278 331 336  
344 346 400

541 549 551 560 566 609 668 669 689 693 720 726

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